

CLAIMS

We claim:

[0131] 1. An authentication protocol (AP) of authenticating the connection and the exclusive and mutual cooperation of a specific computer software (SW) stored in and executed by an IBM-compatible personal computer (PC) or a network personal computer (NPC), interconnected with a sewing machine (SM), and utilizing a standardized Universal Serial Bus communication link (CL). The fixed sequence of transmitting and receiving data signatures is comprised of the following steps: said personal computer (PC) initializes authentication by issuing and sending authentication initialize signature (AI) which has a hexadecimal value of 8E (hex) to said sewing machine (SM); if said sewing machine (SM) is in the desired state, it issues and sends to said personal computer (PC), an authentication acknowledge data signature (ACK) which has a hexadecimal value of 00.

Sequentially, said sewing machine (SM) issues and sends request data signature (AQD) which is consisted of sequential ASCII-equivalent byte values of "C", "O", "M", "P", "U", "C", "O", "N", to said personal computer (PC); said personal computer (PC) then issues and sends authentication response signature (ARS) which has a hexadecimal value of 8F, to said sewing machine (SM); said sewing machine (SM) issues and sends an authorization response data signature (ARD) which is consisted of sequential ASCII-equivalent byte values of "C", "O", "M", "P", "U", "C", "O", "N". On the final step, said sewing machine (SM) issues and sends authentication confirm signature (ACD) which has a hexadecimal value of 00, to inform said personal computer (PC) that the connection is authenticated and established.

[0132] 2. A method as defined in claim 1, where said communication link (CL) comprises of any type of standardized types and communication ports are also any of the standardized types.

[0133] 3. A method as defined in claim 1, where said personal computer (PC) is a Palm PC or is a non-IBM compatible personal computer, at least including a processor, a communication port and a memory device.

[0134] 4. A method as defined in claim 1, where said software (SW) is stored in a separate mass storage device or a data storage media properly connected to said personal computer (PC).

[0135] 5. A method as defined in claim 1, where said software (SW) is stored in and executed by a network personal computer (NPC) connected to said personal computer (PC) through the properly configured said computer network (NET).

[0136] 6. A method as defined in claim 5, where said network personal computer (NPC) is a Palm PC or is non-IBM compatible, at least including a processor, a communication port and a memory device.

[0137] 7. A method as defined in claim 5, where said software (SW) is stored in a separate mass storage device or a data storage media, properly connected to said network personal computer (NPC) which executes said software (SW).

[0138] 8. A method as defined in claim 5, where said software (SW) is stored in a separate mass storage device or a data storage media properly connected to said network (NET).